Isolation of a new cell population in the glioblastoma microenvironment

Submitted by Emmanuel Lemoine on Fri, 07/18/2014 - 13:53

Titre	Isolation of a new cell population in the glioblastoma microenvironment
Type de publication	Article de revue
Auteur	Clavreul, Anne [1], Etcheverry, Amandine [2], Chassevent, Agnès [3], Quillien, Véronique [4], Avril, Tony [5], Jourdan, Marie-Lise [6], Michalak, Sophie [7], Francois, P. [8], Carré, JL [9], Mosser, J. [10], Menei, Philippe [11]
Editeur	Springer Verlag
Type	Article scientifique dans une revue à comité de lecture
Année	2011
Langue	Anglais
Date	18/09/2011
Numéro	3
Pagination	493-504
Volume	106
Titre de la revue	Journal of Neuro-oncology
ISSN	1573-7373

Résumé en anglais	Glioblastoma (GB) is a highly infiltrative tumor recurring in 90% of cases within a few centimeters of the resection cavity, even in cases of complete tumor resection and adjuvant chemo/radiotherapy. This observation highlights the importance of understanding this special zone of brain tissue surrounding the tumor. It is becoming clear that the nonneoplastic stromal compartment of most solid cancers plays an active role in tumor proliferation, invasion, and metastasis. Very little information, other than that concerning angiogenesis and immune cells, has been collected for stromal cells from GB. As part of a translational research program, we have isolated a new stromal cell population surrounding GB by computer-guided stereotaxic biopsies and primary culture. We named these cells GB-associated stromal cells (GASCs). GASCs are diploid, do not display the genomic alterations typical of GB cells, and have phenotypic and functional properties in common with the cancer-associated fibroblasts (CAFs) described in the stroma of carcinomas. In particular, GASCs express markers associated with CAFs such as fibroblast surface protein, alpha-smooth muscle actin (alpha-SMA), and platelet-derived growth factor receptor-beta (PDGFRbeta). Furthermore, GASCs have a molecular expression profile different from that of control stromal cells derived from non-GB peripheral brain tissues. GASCs were also found to have tumor-promoting effects on glioma cells in vitro and in vivo. The isolation of GASCs in a tumor of neuroepithelial origin was unexpected, and further studies are required to determine their potential as a target for antiglioma treatment.

URL de la notice	http://okina.univ-angers.fr/publications/ua3689 [12]
DOI	10.1007/s11060-011-0701-7 [13]

Liens
[1] http://okina.univ-angers.fr/anne.clavreul/publications
[2] http://okina.univ-angers.fr/publications?f[author]=10356
[3] http://okina.univ-angers.fr/publications?f[author]=16290
[4] http://okina.univ-angers.fr/publications?f[author]=7005
[5] http://okina.univ-angers.fr/publications?f[author]=6985
[6] http://okina.univ-angers.fr/publications?f[author]=16384
[7] http://okina.univ-angers.fr/s.mic/publications
[8] http://okina.univ-angers.fr/publications?f[author]=5955
[9] http://okina.univ-angers.fr/publications?f[author]=20461
[10] http://okina.univ-angers.fr/publications?f[author]=5951
[11] http://okina.univ-angers.fr/ph.menei/publications
[12] http://okina.univ-angers.fr/publications/ua3689
[13] http://dx.doi.org/10.1007/s11060-011-0701-7